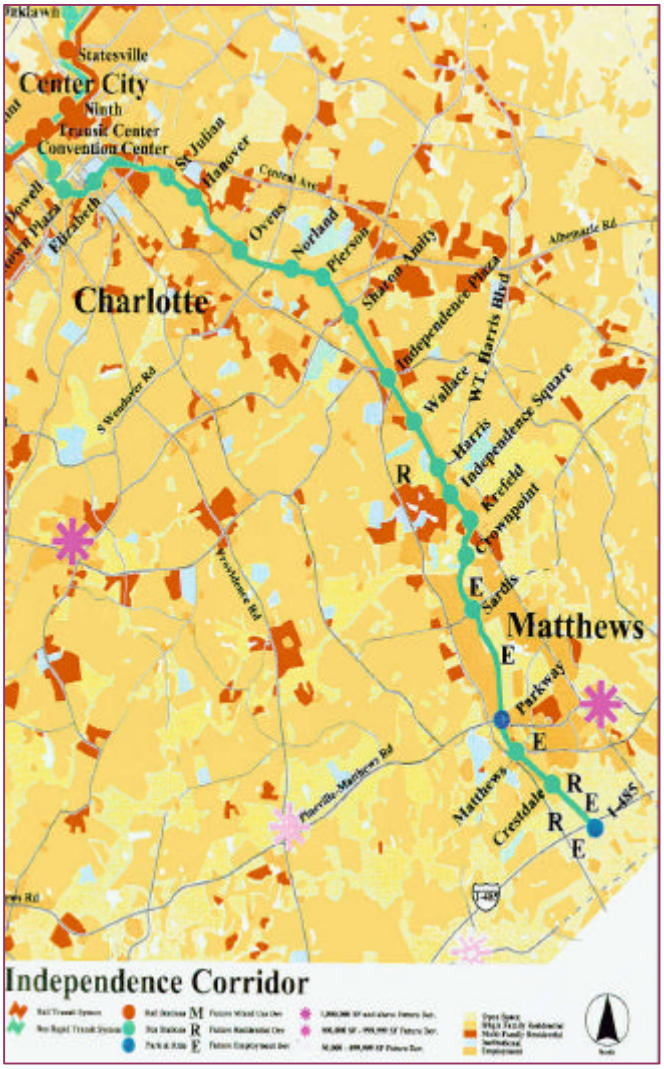
U.S. Department of Transportation

Federal Transit Administration
Bus Rapid Transit Demonstration Program

CITY OF CHARLOTTE
DEPARTMENT OF TRANSPORTATION
INDEPENDENCE CORRIDOR BUS RAPID TRANSIT



1. Project Description

- **Type of Project**

  A 3.6-mile busway will connect Charlotte's Central Business District with redeveloping commercial and residential areas. Approximately 2.6 miles of the planned facility currently are operated as a high-occupancy vehicle (HOV) lane. The project will extend the existing lane by 1 mile through new construction and provide for conversion of the entire facility into an exclusive 2-way busway with 5 stations.

  Long-range plans provide for an extension of the busway to an ultimate length of 13.5 miles, with as many as 22 stations.

- **Method of Operations**

  The North Carolina Department of Transportation is in the process of converting the road from a 6-lane thoroughfare into an 8-lane freeway with a barrier separated, reversible,

HOV lane in the median. The first 2.6 miles have been completed with the next mile scheduled for completion in 2004.

Charlotte's first phase of Bus Rapid Transit opened on December 17, 1998. This phase provides a 2.6-mile two-way express bus facility (without stations). The project took advantage of the HOV lane constructed in the median of Independence Boulevard. The HOV lane was not scheduled to open until 2005 when the next phase of the freeway project is scheduled for completion.

The first phase incorporates a queue jumper at its eastern terminus that allows outbound buses to bypass some of the worst congestion in Charlotte.

The second phase consists of retrofitting 3.6 miles of Independence Boulevard to incorporate a busway facility with stations. The Metropolitan Transit Commission (MTC) will begin a transit and land use study of the entire 13.5-mile corridor by the end of the year. Construction is planned to begin in 2002 with completion in 2004.

- **Service Levels**

The busway will serve four express bus routes and all or part of four local routes. The morning period sees 32 trips and the afternoon period 29, or a bus every 2 minutes at the station closest to the CBD. Ridership on the express routes has increased 35 percent since the express busway opened in December.

- **Estimated Time Savings**

Travel times savings will range from 7 to 14 minutes. These travel time savings have also created a secondary benefit of allowing an additional peak-hour trip for each of the express routes using the express lanes with no additional buses necessary. The morning period of usage runs from 6:30 - 9:00 a.m. and the afternoon period runs from 4:30 - 7:00 p.m.

- **Number and Type of Vehicles Providing Service**

Charlotte Transit is committed to upgrading the technology on its transit fleet. Currently, 51 of its 166 buses are low floor, with an additional 39 low floor buses to be delivered by April 2000.

- **Fare Collection and Boarding**

The City also installed a new fare collection system in November 1998. The system includes capabilities of reading magnetic cards and proximity cards. The system is now using magnetic cards for passes and stored value. These technologies are being looked at to reduce dwell time at the busway stations by installing a reader at the rear door of BRT vehicles.

- **Use of ITS Capabilities**

  The City currently has a grant lined up for installation of Automated Vehicle Locators (AVL) on 127 buses by the end of the year. Charlotte Transit plans to test the benefits of the AVL system in monitoring bus movements along the BRT. Also, automatic voice annunciators are already being installed on buses that will work in conjunction with the AVL to announce stop locations. By the end of 1999, the City will have equipped 10 percent of the fleet with automatic passenger counters (APC).

  The City of Charlotte has purchased route-scheduling software that is used to schedule vehicles and allocate drivers to serve the various transit routes. This software is expandable to employ AVL technology in order to provide real time schedule information to the public. Video monitors will be used to display this real time information. The technology will be tested first in the Uptown Transit Center before being used along the busway.

- **Traffic Engineering and Infrastructure**

  Incorporation of a queue jumper at the eastern terminus will allow buses to circumvent a major congestion point, saving running time.

2. Problems Addressed by the Project

The 2025 Integrated Transit/Land Use Plan was developed to address the region's economic vitality, enhance quality-of-life, and provide alternatives to congestion. The Independence Corridor is one of four corridors recommended for BRT and is the first programmed for implementation. The BRT initiatives will:

A. Address system reliability issues by utilizing AVL, fare collection and scheduling enhancements to improve service.

B. Address the mobility problems in the corridor by providing an alternative to congestion.

C. Address capacity issues in a corridor that has reached its maximum buildable width.

D. Provide safe pedestrian connections for neighborhoods severed by the original freeway project.

E. Enhance redevelopment opportunities along the corridor.

3. Implementation and Operations Schedule

November 1998	Fare Collection System
December 1998	Phase I Busway (2.6-mile express facility)
December 1999	Install Automated Vehicle Locators on 127 Buses

December 1999	Install Automatic Passenger Counters
December 2000	Real-time Route Information

Phase II Busway

January 2000	Begin Corridor Study
January 2001	Complete Corridor Study
March 2001	Award Design Contract
January 2002	Begin ROW Acquisition (if needed)
August 2002	Award Construction Contract
October 2002	Construction Begins
October 2004	Construction Complete
November 2004	Begin Full BRT Operation

4. Funding Plan

The source of local funding for the Independence BRT facility is a one-half percent sales tax that began April 1, 1999. The sales tax was approved in a countywide referendum on November 3, 1998, by 58% of the voters. This local revenue source is fully dedicated to public transportation expenditures and is estimated to generate about $50 million annually (1999 dollars).

The North Carolina Department of Transportation, as part of the January 1997 recommendations of the Transit 2001 Commission, identified a need to increase State transit assistance for capital projects. The City has discussed with NCDOT a 50/50 split in capital expenditures for the Independence BRT. NCDOT has programmed this participation rate in the Governor's recommended budget for FY2000 and FY2001.

Federal funds used in the Independence BRT project may be spent on vehicle and technology purchases. Local and state funds will finance the costs of project design, right-of-way acquisition and construction. The Independence BRT facility modifies the original concept of a 3.6-mile reversible high occupancy vehicle lane in the median of Independence Freeway. Approximately $13 million in Federal Transit Administration funding was programmed in 1987 for the construction of the HOV lanes.

5. Issues of Concern re: planning, design, implementation and/or operations

Neighborhood concerns: What effect will transit stations have on property values of single family homes? Will people park on my street to access transit stations? How much will a transit station increase traffic on my street? Will transit stations be crime magnets?

Design issues: Can an overhead walkway and transit stations be designed that are aesthetically pleasing, low maintenance, easy to use and not ridiculously expensive? Should the busway be designed in the median as originally planned or on the side of the road, and if it is on the side, how can access be maintained to businesses? Can the project be built within the existing right-

of-way or will new rights-of-way need to be purchased?

Land/business owners: What effect will reduced access have on our businesses and rents? Are there going to be changes in zoning for transit-oriented development and how will the changes affect my property?

Implementation concerns: With a best case scenario of 1 bus every 2 minutes in the peak hour, how can we accommodate the segment of the public that will demand that the busway allow HOVs or be operated solely as an HOV lane? How will the public measure the project's success, and will success be attainable?

6. Current Status

Originally, the project was conceived by the City of Charlotte and was seen as a minimal cost demonstration of the timesaving benefits of bus rapid transit. With the passage of the ½ cent sales tax, the project is in a state of evolution. The project is now viewed as an element of a countywide, five-corridor rapid transit system that should promote land use objectives in addition to providing time savings. The approach now is to plan the entire corridor project with the Phase II busway project being constructed as the Minimum Operating Segment (MOS) of the full corridor project.

The corridor study process is beginning right now with a Request for Qualifications issued for the next phase of work. Consultant selection will occur in September/October after a Chief Transit Officer has been hired.

7. Contact

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